

Claim Amendments

1. (Previously Presented) A furnace blower housing comprising:
a body having a tubular exhaust transition, the exhaust transition being comprised of first and second sections and having first and second ends and a length therebetween;
the first end being an inlet, the inlet being adjacent to the body;
the second end being an outlet, the outlet being generally circular; and
the first section being of single piece construction with the body and the second section being adapted and configured to attach to the first section to form the tubular exhaust transition and the circular outlet.
2. (Previously Presented) The housing of claim 1, wherein:
the first end is generally rectangular and the exhaust transition changes from being generally rectangular at the first end to being generally circular at the second end as the exhaust transition extends from the first end to the second end.
3. (Previously Presented) The housing of claim 2, wherein:
the second section extends along the entire length of the exhaust transition from the inlet to the outlet and has an inlet end that is generally flat and forms a portion of the generally rectangular inlet.
4. (Previously Presented) The housing of claim 3, wherein:
the second section inlet end covers a back wall of the body and has an opening to allow air to flow into the housing.
5. (Previously Presented) The housing of claim 1, wherein:
a portion of the body adjacent the inlet is curved outwardly from the body as the portion extends towards the inlet; and
the first section has opposite outlet and inlet ends, the outlet end forming a portion of the outlet and the inlet end being adjacent the body and forming a portion of the inlet, the inlet end curving outwardly from the body and being complementary to the curved body portion.

6. (Previously Presented) The housing of claim 1, wherein:
the second section is attached to the first section to form the tubular exhaust transition by crimping the second section and the first section together.
7. (Previously Presented) A furnace blower housing comprising:
a body having a front wall and a back wall separated by a volute sidewall, the back wall having an opening that leads to a cavity in the body defined by the front and back wall and the sidewall;
the cavity being configured and adapted to receive a fan that is rotated in the cavity to generate a flow of air through the housing;
a throat in the body leading to an exhaust transition comprised of first and second sections, the exhaust transition forming an outlet;
the first exhaust transition section being formed monolithically from the body and forming a first portion of the outlet;
the second exhaust transition section forming a second portion of the outlet, the second exhaust transition section being complementary to the first exhaust transition section and configured and adapted to attach to the first exhaust transition section to form the exhaust transition and the outlet; and
the flow of air exits the housing through the exhaust transition and the outlet.
8. (Previously Presented) The housing of claim 7, wherein:
the first and second transition sections form a generally circular outlet.
9. (Previously Presented) The housing of claim 8, wherein:
the first transition section is formed from the sidewall and the front wall of the body.
10. (Previously Presented) The housing of claim 9, wherein:
the exhaust transition extends axially away from the back wall as the transition section extends outwardly from the body so that the outlet is spaced from the back wall.

11. (Previously Presented) The housing of claim 10, wherein:
the second transition section has opposite outlet and inlet ends and opposite side edges, the second transition section is substantially flat and generally parallel to the back wall at the inlet end and progressively curves outwardly between the opposite side edges as the second transition section extends from the inlet end to the outlet end to form the second portion of the generally circular outlet.

12. (Previously Presented) The housing of claim 11, wherein:
the inlet end forms a back plate that attaches to the back wall and covers the opening in the back wall, the back plate having an opening to allow air to enter the cavity through the back plate opening.

13. (Previously Presented) The housing of claim 10, wherein:
the first transition section has opposite outlet and inlet ends and opposite side edges, the outlet end being the first portion of the outlet and the inlet end being part of the throat, the first transition section progressively curves outwardly between the opposite side edges as the first transition section extends from the inlet end to the outlet end to form the first portion of the generally circular outlet.

14. (Previously Presented) The housing of claim 13, wherein:
a portion of the front wall forms a pretransition section adjacent the throat and the inlet end, the pretransition section progressively curves outwardly from the front wall as the pretransition section extends towards the throat and the inlet end, and a portion of the throat adjacent the pretransition section and a portion of the inlet end adjacent the throat are curved outwardly from the front wall and align with and are complementary to the pretransition section.

15. (Previously Presented) The housing of claim 13, wherein:
the second transition section has opposite first and second ends and opposite side edges, the second transition section being substantially flat and generally parallel to the back wall at the second end and progressively curving outwardly between the opposite side edges as the second transition section extends from the second end to the first end to form the second portion of the generally circular outlet.

16. (Previously Presented) The housing of claim 10, wherein:
the first transition section has opposite outlet and inlet ends and opposite side edges, the first transition section side edges having attachment members;
the second transition section has opposite outlet and inlet ends and opposite side edges, the second transition section side edges having attachment members complementary to the first transition section attachment members; and
the second transition section attaches to the first transition section along the first and second transition section attachment members.

17. (Previously Presented) The housing of claim 16, wherein:
the second transition section attachment members are crimped to the first transition section attachment members.

18. (Previously Presented) A method of transitioning a furnace blower housing outlet so that the housing can be directly attached to a circular exhaust pipe, the method comprising the steps of:

providing the blower housing with an exhaust transition having an inlet adjacent the housing, a circular outlet, and a length therebetween, the exhaust transition being comprised of first and second sections;

forming the first section as a unitary piece of the housing;

forming the second section complementary to the first section and adapted and configured to attach to the first section to form the exhaust transition and the circular outlet; and
attaching the second section to the first section.

19. (Previously Presented) The method of claim 18, wherein:
the exhaust discharge is formed with a generally rectangular inlet and progressively changes from being generally rectangular at the inlet to being generally circular at the outlet.

20. (Previously Presented) The method of claim 19, wherein the step of attaching the second section to the first pipe section is further comprised of the step of:
crimping the second section to the first section

21. (New) A blower assembly for use in expelling exhaust gases from a furnace through a circular exhaust pipe comprising:

a blower motor having a motor shaft;

a blower housing formed from stamped metal and having an internal impeller cavity defined by an outer wall, an inlet opening, a circular exhaust outlet and a transition section, wherein the internal impeller cavity is in fluid communication with the circular exhaust outlet through the transition section, the transition section being formed as an integral part of the blower housing, the blower housing further comprising:

a first housing member formed from stamped metal defining a bottom half of both the transition section and the exhaust outlet of the blower housing; and

a second housing member formed from stamped metal and attachable to the first housing member to define the transition section and the circular exhaust outlet, wherein the second housing member includes a top half of both the transition section and the exhaust outlet, wherein the motor shaft of the blower motor extends through a shaft opening formed in the second housing member;

a mounting flange for attaching the blower housing to the furnace, the mounting flange extending from the outer wall and being generally coplanar with the inlet opening; and

an impeller mounted to the motor shaft and contained within the impeller cavity, wherein rotation of the impeller within the impeller cavity creates a flow of exhaust gases out of the circular exhaust outlet.

22. (New) The blower assembly of claim 21 wherein the first housing member includes a first outer flange and the second housing member includes a second outer flange, wherein the first housing member and the second housing member are affixed to each other along the first outer flange and the second outer flange.

23. (New) The blower assembly of claim 21 wherein the inlet opening is aligned with the impeller to allow exhaust gases to enter into the impeller cavity.

24. (New) The blower assembly of claim 23 wherein the first housing member includes a generally planar back plate that includes the inlet opening and defines a first outer flange generally coplanar with the inlet opening.

25. (New) The blower assembly of claim 24 wherein the circular exhaust outlet of the blower assembly is offset from the back plate of the first housing member.

26. (New) The blower assembly of claim 21 wherein the first housing member and the second housing member are formed from stamped steel.

27. (New) The blower assembly of claim 21 wherein the impeller cavity includes a rectangular outlet through which the flow of gases exits the impeller cavity, wherein the transition section of the blower housing extends between the rectangular outlet of the impeller cavity and the circular exhaust outlet.

28. (New) The blower assembly of claim 21 wherein the bottom half of the transition section is joined to the top half of the transition section by crimping a first outer flange of a first housing member to a second outer flange of the second housing member.

29. (New) A blower housing for a blower assembly including a blower motor coupled to an impeller for use in expelling exhaust gases from a furnace, the blower housing comprising:

an impeller cavity sized to receive the impeller, the impeller cavity having a generally rectangular outlet through which exhaust gases are expelled;

a transition section coupled to the rectangular outlet of the impeller cavity, the transition section being positioned to receive the expelled exhaust gases from the impeller cavity;

a circular exhaust outlet formed as a portion of the transition section, the circular exhaust outlet being configured to receive a circular exhaust pipe to expel exhaust gases away from the blower assembly;

a first housing member formed from stamped metal and configured to form a portion of the blower housing, the first housing member having an inlet opening to receive exhaust gases and a first outer flange, at least a portion of which is generally coplanar with the inlet opening, the first housing member defining a bottom half of both the transition section and the exhaust outlet; and

a second housing member formed from stamped metal and having a second outer flange attachable to the first outer flange of the first housing member, the second housing

member defining an upper half of both the transition section and the exhaust outlet, wherein the first housing member and the second housing member are joined to form the blower housing.

30. (New) The blower housing of claim 29 wherein the first housing member and the second housing member are formed from stamped steel.

31. (New) The blower housing of claim 29 wherein the first housing member includes a generally planar back plate having an inlet opening formed therein, wherein the inlet opening provides access into the impeller cavity such that exhaust gases can flow into the impeller cavity.

32. (New) The blower housing of claim 31 wherein the exhaust outlet is offset from the back plate of the first housing member.

33. (New) The blower housing of claim 29 wherein the blower housing is attachable to the furnace along the portion of the first outer flange that is generally coplanar with the inlet opening.

34. (New) A blower assembly for use in expelling exhaust gases from a furnace through a circular exhaust pipe comprising:

- a blower motor having a motor shaft;

- a blower housing formed from stamped metal for supporting the blower motor, the blower housing comprising:

- an internal impeller cavity defined by an outer wall;

- an inlet opening positionable to receive exhaust gases from the furnace;

- a mounting flange extending from the outer wall and being generally coplanar with the inlet opening;

- a circular exhaust outlet configured to receive the circular exhaust pipe; and

- a transition section positioned between the circular exhaust outlet and the impeller cavity, wherein the internal impeller cavity is in fluid communication with the circular exhaust outlet through the transition section, the transition section being formed as an integral part of the blower housing;

an impeller mounted to the motor shaft and contained within the impeller cavity, wherein rotation of the impeller within the impeller cavity creates a flow of exhaust gases out of the circular exhaust outlet,

wherein the blower housing is attachable to the furnace along the mounting flange.

35. (New) The blower assembly of claim 34 wherein the blower housing further comprises:

a first housing member formed from stamped metal, the first housing member defining a bottom half of both the transition section and the exhaust outlet of the blower housing; and

a second housing member formed from stamped metal, the second housing member being attachable to the first housing member to define the transition section and the circular exhaust outlet, wherein the second housing member includes a top half of both the transition section and the exhaust outlet, wherein the motor shaft of the blower motor extends through a shaft opening formed in the second housing member.

36. (New) The blower assembly of claim 35 wherein the second housing member includes a second outer flange, wherein at least a portion of the second outer flange is generally coplanar with the inlet opening, wherein the first housing member includes a first outer flange such that the first housing member and the second housing member are affixed to each other along the first outer flange and the second outer flange to define the transition section and the exhaust outlet.